

REMARKS

Claims 1-21 are currently pending in the application. By this amendment, claims 1, 9, 10, 17 and 19 are amended, and claim 21 is added for the Examiner's consideration. The above amendments and new claim do not add new matter to the application and are fully supported by the original disclosure. For example, support for the amendments and new claim is provided in the claims as originally filed, at Figures 1-4, and at pages 8-11 of the specification. Reconsideration of the rejected claims in view of the above amendments and the following remarks is respectfully requested.

Objection to Claims

Claim 17 was objected to because, according to the Examiner, the phrase "the disc radial direction", should be "a disc radial direction".

Claim 17 has been amended according to the Examiner's suggestion. As such, Applicants respectfully request that the objection to claim 17 be withdrawn.

35 U.S.C. §102 Rejection

Claims 1-20 were rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 5,687,817 issued to Kobayashi *et al.* ("Kobayashi"). This rejection is respectfully traversed.

To anticipate a claim, each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference. MPEP §2131. Applicants submit that Kobayashi does not show each and every feature of the claimed invention.

Claims 1-11

The present invention relates to a disc brake for a vehicle that is used in vehicles such as automobiles and motorcycles. More specifically, the invention relates to the structure of pad retainers that are set in pad guide grooves of caliper support arms and movably support ears of back plates of friction pads. Implementations of the invention

prevent the play of friction pad ears to reduce brake noise and suppress juddering. Moreover, implementations prevent the friction pads from falling off a caliper bracket in attaching the friction pads to the caliper bracket tentatively, thereby allowing the friction pads to be attached easily. Claim 1, which includes the features of original claim 9, in recites pertinent part,

... pad retainers disposed on the pad guide grooves, the ears of the friction pads being movably supported by the pad guide grooves and between receiving portions of the pad retainers,

wherein the pad retainers each has:

pad returning portions for urging the friction pads away from the disc rotor, the pad returning portions extending between the receiving portions and contact with the ear of the friction pads so as to urge the friction pads away from the disc rotor, and

pad falling-off preventive portions for preventing the friction pads from falling off the caliper support arms.

Kobayashi does not disclose these features, and therefore does not anticipate the claimed invention.

The Examiner asserts that Kobayashi shows these features in FIGS. 13 and 14. Applicants respectfully disagree.

Kobayashi shows a disc brake including a caliper body 6 supported by a carrier 11 fixedly attached to a vehicle. Back plate 13 of friction pad 10 includes ears 15. Pad spring 31 is disposed in grooves 16 (FIGS. 12-14). The ears 15 are movably supported in the grooves 16 between guiding portions 31a of the pad spring 31. The pad spring 31 has first spring portions 32, 32a. The first spring portions 32, 32a extend between the guiding portions 31a (FIG. 14) and contact the ear 15 to urge the friction pad 10 away from the disc rotor 7 (FIGS. 15, 17). A torque bearing portion 31b extends downward from the guiding portions and supports a retainer portion 31c, which supports second spring portions 33, 33a. These second spring portions 33, 33a function in the same manner as the first spring portions 32, 32a to bias the friction pad 10 away from the disc rotor 7 (FIGS. 14, 16).

However, the first and second spring portions are not pad falling-off preventive portions. That is, Kobayashi does not disclose pad falling-off preventive portions anywhere in the disclosure. To the contrary, Kobayashi only shows first and second spring portions that bias the pad away from the disc rotor when the brakes are released. Moreover, inspection of FIGS. 15-17 reveals that a gap is maintained between the end of the pad back plate 13 and the loop 32 (33) of the first (second) spring portion. Thus, because no part of the first or second spring portions extends behind the friction pad in the disc axial direction, there is no pad falling-off preventive portion for preventing the friction pads from falling off the caliper support arms. Therefore, Kobayashi does not contain each and every element of claim 1, and does not anticipate claim 1.

Applicants submit that claims 2-11 depend from allowable independent claim 1, and are allowable by virtue of the allowability of the independent claim. Moreover, Applicants submit that Kobayashi does not disclose many of the features of claims 2-11.

For example, Kobayashi does not disclose each said pad falling-off preventive portion is bent back so as to form a circular arc, as recited in claim 9. As discussed above, Kobayashi does not disclose a pad falling-off preventive portion. Therefore, it is impossible for Kobayashi to disclose that the pad falling-off preventive portion is bent back to form a circular arc.

Furthermore, Kobayashi does not disclose the elastic loop portion is an other pad falling-off preventive portion, as recited in claim 10. Even assuming *arguendo* that Kobayashi's U-shaped portion 32 of the first spring portion 32, 32a constitutes an elastic loop, which applicants do not concede, this U-shaped portion 32 does not function as a pad falling-off preventive portion. Instead, as discussed above, Kobayashi only discloses first and second spring portions that bias the friction pad away from the disc rotor.

Claims 12-17

Claim 12 recites, in pertinent part,

... pad retainers disposed on the pad guide grooves, the pad retainers including a pad returning portion extending at least partially between receiving portions of the pad retainers and comprising an elongated strip which extends towards the disc rotor and is longer than a distance by which the ears of the friction pad is moved from a time when a lining of the friction pad is new to being fully worn.

Kobayashi does not disclose these features, and therefore does not anticipate the claimed invention.

The Examiner asserts that Kobayashi discloses the features of claim 12 in FIG.

13. Applicants respectfully disagree.

Initially, Applicants note that the Examiner has failed to even assert that Kobayashi shows an elongated strip which extends towards the disc rotor and is longer than a distance by which the ears of the friction pad is moved from a time when a lining of the friction pad is new to being fully worn, as recited in claim 12. Therefore, the Examiner has failed to establish a *prima facie* case of anticipation with respect to claim 12.

In any event, Kobayashi shows oblique surface 32a of first spring portion 32, 32a (FIGS. 14, 17). As the friction pad 10 is worn away, back plate 13 moves toward the disc rotor (col. 12, lines 48-56). However, Kobayashi does not mention that the length of oblique surface 32a is longer than the distance by which the ears move from a time when the lining of the friction pad is new to being fully worn. To the contrary, Kobayashi only mentions an indeterminate degree of wear, but does not mention the case of the lining being fully worn. Therefore, Kobayashi does not contain each and every element of claim 12, and does not anticipate claim 12.

Applicants submit that claims 13-17 depend from allowable independent claim 12, and are allowable by virtue of the allowability of the independent claim. Moreover, Applicants submit that Kobayashi does not disclose many of the features of claims 13-17.

For example, Kobayashi does not disclose the inner receiving piece comprises a pad falling-off preventive portion that is bent back so as to form a circular arc, as recited in claim 15. As discussed above, Kobayashi does not disclose a pad falling-off preventive portion. Instead, Kobayashi only discloses first and second spring portions that bias the friction pad away from the disc rotor, but that do not function to prevent the friction pad from falling off the caliper support arms. Therefore, it is impossible for Kobayashi to disclose that an inner receiving piece comprises a pad falling-off preventive portion that is bent back to form a circular arc.

Furthermore, Kobayashi does not disclose the pad retainers include an insertion guide which is bent outward from each outer receiving piece on a side opposite to the disc rotor, as recited in claim 16. Initially, Applicants note that the Examiner has not identified an element in Kobayashi that constitutes an insertion guide. Thus, the Examiner has failed to establish a *prima facie* case of anticipation with respect to claim 16. In any event, Kobayashi does not show anything bent outward from each outer receiving piece on a side opposite the disc rotor.

Even further, Kobayashi does not disclose a pad falling-off preventive portion that is bent back so as to form a circular arc, the pad falling-off preventive portion extending outward from the inner receiving piece, as recited in claim 17. As discussed above, Kobayashi does not disclose a pad falling-off preventive portion. Therefore, it is impossible for Kobayashi to disclose a pad falling-off preventive portion that is bent back to form a circular arc and extending outward from an inner receiving piece.

Claims 18-20

Claim 18 recites, in pertinent part,

... a pad returning portion comprising an elongated strip adapted to extend towards a disc rotor and an elastic loop portion on an opposing side thereof;

a retainer portion having an inner receiving piece and an outer receiving piece that are opposed to each other in a direction that is inclined from a disc radial direction,

a pad falling-off preventive portion that is bent back so as to form a circular arc, the pad falling-off preventive portion extending outward from the inner receiving piece, and ...

Kobayashi does not disclose these features, and therefore does not anticipate the claimed invention.

The Examiner asserts that Kobayashi discloses the features of claim 18 in FIG.

13. Applicants respectfully disagree.

Initially, Applicants note that the Examiner has failed to even assert that Kobayashi shows a retainer portion having an inner receiving piece and an outer receiving piece that are opposed to each other in a direction that is inclined from a disc radial direction. Moreover, the Examiner has failed to identify a pad falling-off preventive portion that is bent back so as to form a circular arc, the pad falling-off preventive portion extending outward from the inner receiving piece. Therefore, the Examiner has failed to establish a *prima facie* case of anticipation with respect to claim 18.

In any event, Kobayashi does not disclose a pad falling-off preventive portion that is bent back so as to form a circular arc, the pad falling-off preventive portion extending outward from the inner receiving piece, as recited in claim 18. Even assuming *arguendo* that Kobayashi's guiding portion 31a constitutes an inner receiving piece, which applicants do not concede, this guiding portion 31a does not comprise a pad falling-off preventive portion that is bent backward to form a circular arc and that extends outward. There is simply no such element shown in Kobayashi.

Applicants submit that claims 19-20 depend from allowable independent claim 18, and are allowable by virtue of the allowability of the independent claim. Moreover, Applicants submit that Kobayashi does not disclose many of the features of claims 19-20.

For example, Kobayashi does not disclose the elongated strip is longer than a distance by which ears of a friction pad are moved from a time when a lining of the friction pad is new to being fully worn, as recited in claim 19. As discussed above, Kobayashi makes no mention of the pad position when fully worn. Therefore, Kobayashi cannot disclose that the elongated strip is longer than a distance that the ears travel between when the pad is new and fully worn.

Accordingly, Applicants respectfully request that the rejection over claims 1-20 be withdrawn.

Other Matters

Claim 19 is amended to provide proper antecedent basis for a claim term.

Claim 21 is added to further define Applicants' invention. Applicants submit that claim 21 depends from allowable independent claim 1, and is allowable by virtue of the allowability of claim 1.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 19-0089.

Respectfully submitted,
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A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', is written over a horizontal line.

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